

# **New York State Severe Weather Awareness Week May 1<sup>st</sup> to May 7<sup>th</sup>, 2011**

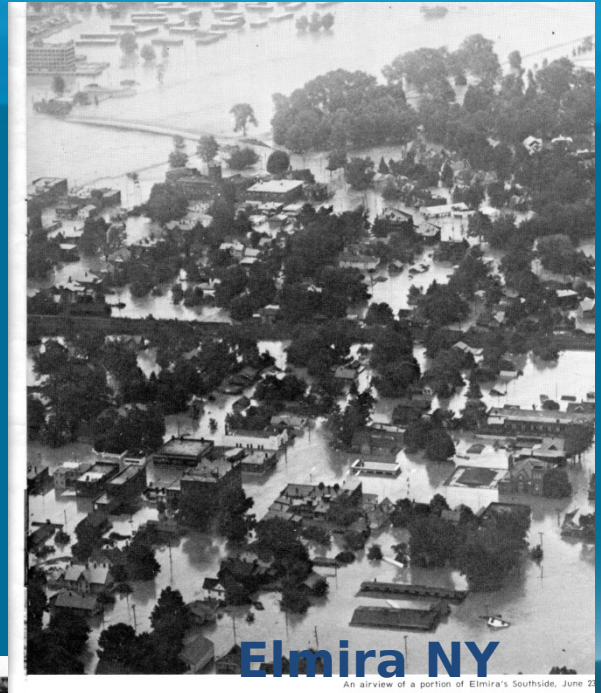
## **Flash Flooding and River Flooding**

Priscilla Nicosia  
NOAA's National Weather Service  
Binghamton NY



# Flooding

- All parts of the state have been hit with flash flooding and river flooding.
- Some have been statewide floods
  - July 1935
  - Agnes – 1972
  - Jan 1996 snowmelt flood
  - Ivan – 2004
  - June 2006
  - Many other tropical storms.



**Elmira NY**  
after Agnes




**Binghamton, NY**  
July 8<sup>th</sup> 1935



**Ivan,**  
**September**  
**2004**

# Types of Flooding

- **Urban Flooding** - Takes less rainfall to cause flooding. Causes ponding of water on roads and low-lying areas.
- **Flash Flooding** - Flooding on small streams. Responds in less than 6 hours.
- **River Flooding** - Flooding on larger rivers and streams. Responds in greater than 6 hours.

The background of the slide features a blue sky with white clouds in the upper left corner. A stylized white cloud or wave shape is visible in the top left. In the bottom right corner, there is a semi-transparent globe showing the Earth's continents and latitude/longitude lines. The main text is centered in the middle of the slide.

Slow-Moving Thunderstorms  
often produce flash floods  
(mainly in summer)

A diagram illustrating the Föhn effect. A green hill is shown at the bottom. Two red arrows point upwards from the base of the hill, indicating rising air. Above the hill, a large white and grey storm cloud is depicted. The background is a blue sky with a faint globe visible on the right side.

Sun heats up the hills first.

Air rises up the hills and triggers storms.

Weak winds aloft allow storm to remain on the hill.

Steeper terrain the larger the flash flood threat!



# Delaware County Flash Flood

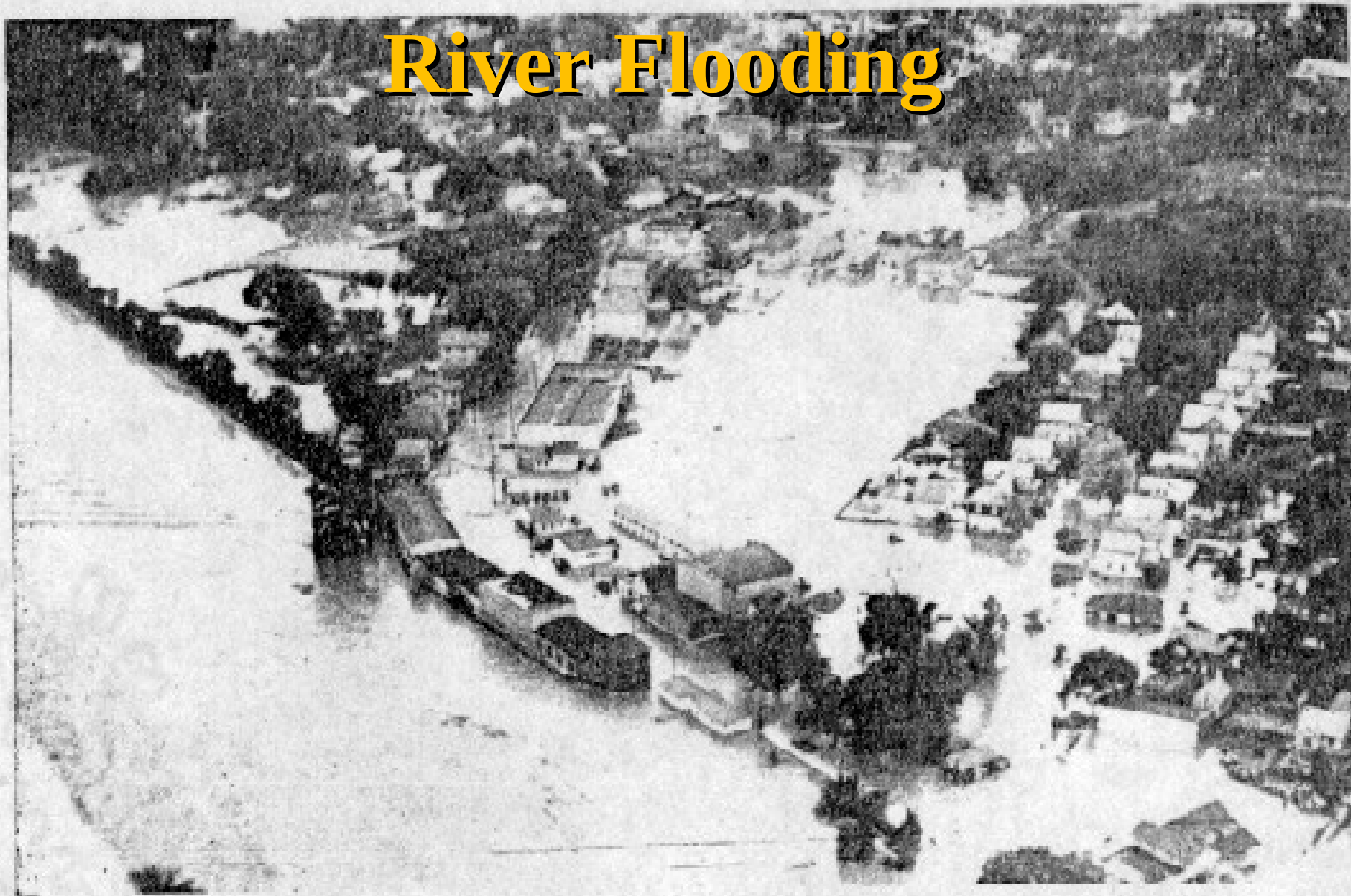
## June 19<sup>th</sup>, 2007

- 4 dead.
- At least 10 million dollars damage.
- Route 206 destroyed between Roscoe and Downsville
- 4 homes completely washed away.
- 37 severely damaged or destroyed.
- Up to 11 inches rain fell in about 3 hours.



Photo by Dave Morford National Weather Binghamton, NY June 22, 2007

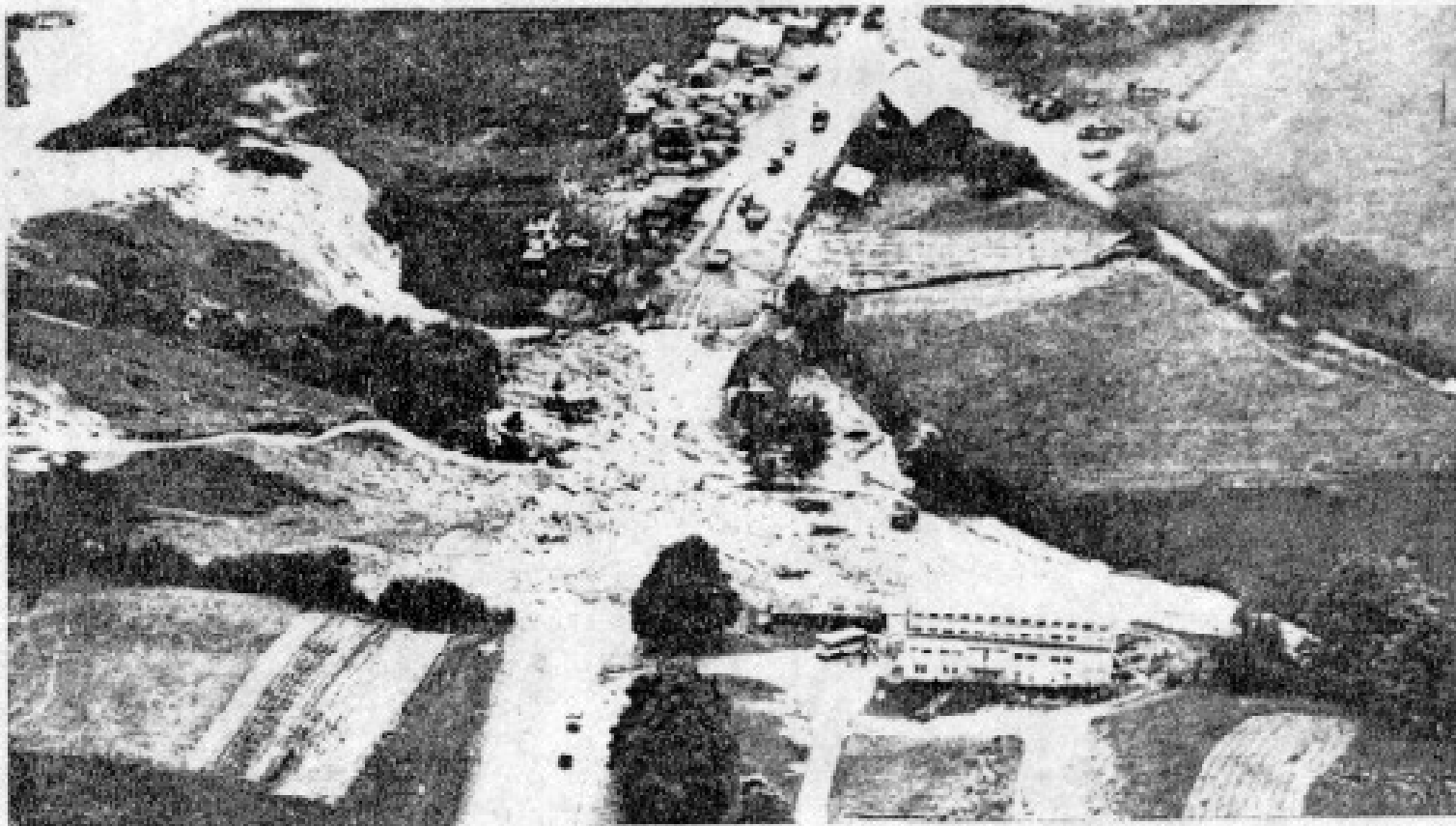
# River Flooding



Chenango River and Front Street, Binghamton, N. Y.  
Water backing in through Valley Street and into the First Ward

July 1935

# 1935 River Flooding



Wild rushing waters played havoc with the Cortland-Marathon road



# Hornell New York June 1972



The Canisteo River wall kept the river out but trapped runoff from Tobes Hill along Hornell's Dennis Ave.

# Tioga County, April 2005



Main Street, Village of Owego



# June 2006 Flood



Charles McElwee, Broome SWCD

- 9 dead in central NY and northeast PA.
- Up to 1 billion dollars damage.
- State of Emergencies in many counties.
- Record flooding on the Susquehanna River in New York State.



Taken by Michael R. Head in Binghamton, NY.

# The Record Flood of June 2006

Flooding along the North Branch of the Susquehanna River  
(red denotes new record)

RIVER	GAGE	JUNE 06 CREST	RECORD	APR '05	IVAN -04
CHENANGO	SHERBURNE	11.35	11.2 (1914)	10.78	N/A
CHENANGO	GREENE	21.16	22.0 (1935)	18.67	N/A
SUSQUEHANNA	UNADILLA	17.73	16.6 (1936)	13.67	N/A
SUSQUEHANNA	BAINBRIDGE	27.03	23.1 (1914)	20.47	15.09
SUSQUEHANNA	CONKLIN	25.02	20.83 (1948)	18.08	19.01
SUSQUEHANNA	VESTAL	33.50	30.5 (1936)	28.87	25.98
SUSQUEHANNA	WAVERLY	22.52	21.4 (1936)	20.88	18.80
SUSQUEHANNA	TOWANDA	20.83	33.43 (1972)	23.05	22.27
SUSQUEHANNA	MESHOPPEN	32.78	43.51 (1972)	34.06	35.27
SUSQUEHANNA	WILKES-BARRE	34.09	40.91 (1972)	30.94	34.96



# WATCH vs. WARNING

**CAUTION**

Watch the Sky

**DANGER**

Take Cover Now

## Watch- “Stand-by”

Conditions are favorable for severe weather in or near the watch area. Watches are issued for tornadoes, severe thunderstorms and flash floods. Issued by the Storm Prediction Center

## Warning- “Activated”

The severe weather event is imminent or occurring in the warned area. Warnings are issued for tornadoes, severe thunderstorms, flash floods and river flooding. Issued by NWS Binghamton for central New York and northeast Pennsylvania.